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At the time of separation of the mother cells, the growth of the capsule is checked, while the calyptra continues growth, leaving quite a space between capsule and calyptra. The capsule and seta soon resume growth, fill the cavity, and distend the calyptra. No pseudoperianth, such as is found in *Marchantia*, is present. A sheath, which is a specialized portion of the gametophore, invests the calyptra.—W. J. G. LAND.

Evaporation measurements.—The porous cup atmometer is now recognized by ecologists as one of the best instruments for measuring the evaporating power of the air, which is perhaps the most important climatic factor, or set of factors, in determining the vegetation of any locality. One difficulty in its operation has been that rain falling upon the exposed cup penetrates to some extent into the reservoir and vitiates the readings immediately following. To obviate this difficulty LIVINGSTON⁴¹ has devised a rain-correcting atmometer with a mercury valve preventing any water from entering the reservoir. He also emphasizes⁴² the importance of using nothing but the purest distilled water in the instrument and of standardizing the cups at frequent intervals. Recognizing the necessity of some uniform unit of standardization, in order that the results of the various workers may be comparable, he proposes that the standard cup be one that loses water at the same-rate as 45 sq. cm. of water surface exposed in a Petri dish 1.5 cm. high and kept constantly filled to the depth of 3 mm. Microorganisms in the cups may be prevented by rinsing the cups and reservoirs with weak mercuric chlorid solution. It has also been found desirable to operate two or more cups at each station, as accidents are not likely to occur simultaneously to all, and thus an unbroken record is made more probable.—GEO. D. FULLER.

⁴¹ LIVINGSTON, B. E., A rain-correcting atmometer for ecological purposes. *Plant World* **13**:79-82. 1910.

⁴² ———, Operation of the porous cup atmometer. *Plant World* **13**:111-119. 1910.